THE DEVELOPMENT OF MODERN HOUSEHOLD OBJECTS:
ELECTRIC POTS AND THERMOS BOTTLES IN POST-WAR JAPAN

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INTRODUCTION

In this paper I examine the ways in which household objects developed, and spread in Japanese homes, in post-World-War years. The objective of this study is to test the idea of 'evolution of objects' in the discipline of design history. For doing so, I chose the thermos bottle, a familiar object in Japanese homes today, as a case object. I will trace the development process of the thermos bottle and its related objects, and try to account for their design changes from their cultural, social, and economic backgrounds. I am looking at this very much anonymous process of evolution, rather than looking at personal contributions for the design changes as in the conventional history of design. The case study will show the usefulness of the objective approach into design history.1) Looking at evolution of objects is particularly useful to describe the dynamics of design changes of mass-produced objects in modern society.

In the formation of its modern history, Japan, which was initially influenced by the West has now formed its own highly industrialized society. Most of the modern products that appeared in Europe and America from the end of the 19th century were introduced to Japan, and went through an initial stage of copying, and now can be recognized as indispensable equipment for everyday life.

Those modern products marketed today in various countries are very similar at first glance to each other in their design and variety. However, when the process of development of these products and the way they are used are compared carefully, some interesting differences are discovered. The differences of these products result from the differences in social and economic conditions from which the products were developed, and that is the basic point of this study.

Electric Pots: An Early Electrical Appliances in Post -War Era

The first electric pot in Japan was manufactured by Toshiba (Tokyo Shibaura Electric Co., Ltd.) in the late 1950s during the boom period of home electrification with other manufactures soon following making similar models.2) The body of these early models was made of aluminum with a plastic handle and base (Fig.1, 2). An immersion heater was attached to the bottom of the inside. They looked like a small version of an American coffee percolator although strangely enough coffee percolators were never that popular and were virtually unknown then. Being simple and cheap, the design of the electric pot has not really changed that much even today.

Fig. 1 *The first electric pot (Toshiba, 1957).*

Fig. 2 *models by other manufacturers (around 1965).*

1) On design history by objective approach or anonymous history of design, see Forty (1986)[1].

2) The material in the following derived from my unpublished dissertation (Fukushima, 1990)[2], ch. 3.

The early electric pots, however, had a limited use because of their small capacity (0.7-0.8 liters of water), a long boiling time, added to which they were noisy when boiling. They were popular to some extent among single people and students but remained out of most households.

The design of electric pots obviously came from American electric coffee pots or percolators. The reason for this similarity is clear. Electrical appliance industry in Japan had been converted into munitions factories during the war (production of electrical appliances for domestic use was banned in 1941), and these production facilities were severely damaged by Allied bombing. However, production was resumed on receiving commissions to make electrical appliances for the occupying forces and their families, most of whom were Americans. The industry was ordered to make appliances that met American requirements in function and possibly in appearance too. The coffee percolator was one of these items.1)

After the period of occupation (1945 to 1951), the industry began to make its own electric

pots, one of which was simply the same design as the coffee percolator but without the parts needed for coffee brewing. Electric pots in the 1960s still show the influence of American coffee percolators in their design.2)

Alongside small-capacity electric pots, the manufactures tried to introduce electric kettles (for example, Matsushita in 1958), but achieved little success and the products soon disappeared. This is partly because of the high cost of electricity and perhaps the slow boiling time. Electrical appliances for heating use were generally unpopular for the same reason. Accordingly, electrical kettles would not have competed with non powered kettles on gas ranges, both in the boiling time and the cost. However, it is not only these technical factors, but also other market factors which account for the non appearance of electric kettles in Japan.3) This is the existence of the thermos bottle.

1) 109 manufactures were commissioned in total and the number of orders filled to 1948 reached about 250,000 (Yamada, 1961)[3], p.115.

2) Toshiba had been producing electric coffee pots since the 1920s. So had Matsushita since 1935. However, the volume of the production had been very limited.

3) Electric kettles are very familiar objects in tea-drinking nations in the West such as Britain.

THERMOS BOTTLES IN JAPAN

Even before the introduction of electric pots, thermos bottles with vacuum flasks suitable for Japanese tea had developed and had spread throughout the market.1) The vacuum flask for keeping water hot or cool were invented in Britain in the 19th Century and the invention was soon in commercial production in Europe from the early part of the 20th Century. Thermos bottles were introduced into Japan long before the outbreak of World War Two and the industry flourished mainly in Osaka area where there had been glass bottle manufacturers and other related industries.

Unlike thermos bottles in Western countries, which are still used for picnics or outdoor lunches, the Japanese thermos bottle developed in a different way after the War; they began to develop mainly for indoor use. The idea of this table use type emerged in the early 1950s,2) earlier than the introduction of electric pots, and soon became the norm. By the 1960s, almost every household had one or two. So, with thermos bottles being so popular, the electrical industry simply could not introduce electric kettles onto the market even during the craze for electrical goods in the 1950s and 60s.

EVOLUTION OF THE THERMOS BOTTLE

Thermos bottles underwent an evolutionary process in which the arrival of the table type is one stage. We should look at the evolution of the table type.

(1) The Flower Pattern Era

From the late 1960s, flower patterns began to be printed on the outside the thermos bottles in fierce competition between manufactures. At first, the pattern was a modest wood grain, but it later changed to colorful flowers and they soon overwhelmed the market (Fig. 3).

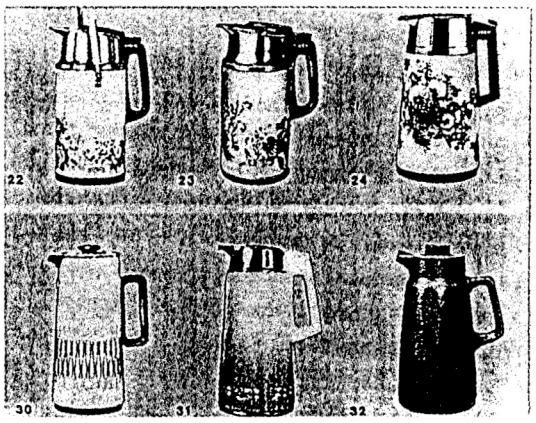

Fig. 3 *Thermos bottles with patterns (Tiger, 1967 - 1970) from ' Fifty Year History of Tiger Thermos Bottle '*

1) I use the term 'vacuum flask' to mean double-glass-wall flask and the term 'thermos bottle' to mean a product that contains the vacuum flask or other means of maintaining the temperature of its contents.

2) The first table type is said to have been made by Tiger Mahobin Co., Ltd., a major manufacturer of thermos bottles, with a body made of bakelite. [4]

Putting flower patterns on modern products is an interesting issue concerning cultural identity in modern society though it is often regarded as 'bad taste' or 'kitsch'. Flower patterns on thermos bottles were also often criticized at the time.1) It was difficult to buy a thermos bottle without a flower pattern and the colorful flower pattern was accused of making Japanese home interiors visually chaotic.

The 1960s was an era of affluence and the flower pattern might have appealed to the consumers' image of affluence. Also, thermos bottles then had already saturated the market (90% of

households had them in 1965) and the manufacturers desperately sought a way of stimulating a new demand. Flower patterns seemed to have succeeded in persuading consumers to replace old models.

Also, thermos bottles were often bought as gifts. Therefore, a flower pattern was seen as appropriate. After the arrival of the flower pattern, the sales grew rapidly and in 1973 the sales reached 4.6 times as much as in 1965.2) [5]

2) Air-pots: Stabilized thermos bottles

In the early 70s, the so-called air-pot, a tall thermos bottle with an air pump mechanism, appeared on the market and soon the sales exceeded those of the normal table types. It is designed so that hot water can be poured, without lifting and tilting the bottle, by pushing the top of the lid. Along with the pump mechanism, the feature of this type was its large capacity (2.2- 2.5 liters). This feature suggested a small but significant change in the way of preparing tea.

Unlike ordinary table type rivals, due to its large capacity, the air-pot does not need to be carried in and out of the kitchen repeatedly. It stays on or beside the table with the teapot and tea is brewed when wanted. It is more convenient in that tea is prepared in sitting room rather than in the kitchen. Although preparing tea in front of guests may still not bee seen as best behavior, this ' casualization ' of tea making is now an everyday practice.

3) Electric Rice Containers

Alongside thermos bottles there was another major product of the thermos bottle industry, namely the rice containers, containers with vacuum flasks, used to keep cooked rice warm. A vacuum flask version went into production in 1951 and became a major product for the industry.

The industry introduced the new product, the electric or electronic rice container in the early 1970s. The body design was similar to those of electric rice cookers, which were one of the most successful products of electric appliance industry in the post-war years.

Thermos bottle industry, which was merely a regional industry in origin, was very much smaller compared to the giant electrical appliance industry and always felt the fear that some day those electrical giants might come into their field and take over the market.1) But strangely enough, it was the thermos bottle industry that found a niche for their products in the field of electrical appliances. Electric rice containers were very successful when they were first introduced. However, this was short lived because electric rice cookers with a thermos function appeared soon after and eliminated the rice containers. In spite of that, rice containers had certain significance for the industry. Thermal - related technologies from electric means were developed and were then

used for making rice containers. This soon found another application; the technology was transformed back into their original product, thermos bottles.

1) Flower patterns on thermos bottle is not a phenomenon seen only in Japan. Similar products are found in China, South Korea and probably all over Asia. They may be influenced by Japanese products, but the acceptance by a wider consumer suggests that there is a traditional background for such decoration.

2) Flower patterns also appeared on refrigerators and washing machines in the middle of the 1960s, but never really took off.

3) An electrical appliance manufacturer, Sharp, introduced a thermos bottle onto the market in 1963 but soon withdrew it. The reasons for this were not clear.

4) Electric Thermos bottles

It may be difficult to say which was the influence of electric thermos bottles, the electric pot or the thermos bottle with a vacuum flask. It boils water like an electric pot or kettle and keeps the water hot like a thermos bottle. The new product was introduced by two major thermos bottle manufacturers, Zojirushi and Tiger, in 1980 and soon the electrical appliance manufactures followed.[1)]

The body design of the earliest model directly came from non-powered thermos bottles (Fig.4) although it does not contain a vacuum flask in it anymore, and now a water measuring window is attached to the body.

In a sense, it could be said that the once unsuccessful electric pots and kettles came back into the Japanese market in the form of thermos bottles. The use of thermos bottles, air-pots in particular, had become everyday practice in almost every household and office, so the electric version was just a new feature for this everyday object and accepted very easily by consumers who were used to thermos bottles.

One advantage of the electric thermos bottle is that it can boil water itself and therefore is convenient in places without a gas facility (e.g., high rise flats and self-contained guest houses, both of which grew in number in the 1980s). Another advantage is that it can keep water very hot (over 90。c) which is suitable for making black tea as well as instant coffee. However, a major factor accounting for the arrival of the electric thermos bottle is found on the manufacturing side. As we have seen, the industry has had to introduce new products after an interval of some years in order to stimulate the already saturated market. This last attempt by the thermos bottle industry

was very successful but it also invited competition from the electric giants.

Fig. 4 *Electric thermos bottle (Zojirushi, 1980)*

Fig. 5 *Mi-com pots (various manufactures, 1989)*

1) The two manufactures, which account for about 70% of thermos bottle sales, had made inroads into the small electrical cooking appliance market such as electric rice cookers, hot plates, coffee makers, etc.

5) Mi-Com Pots

The latest products in the market are 'mi-com' pots, which are electric thermos bottles with microprocessors (nicknamed mi-con or ' maikon ' in Japanese) and semi conductors for thermos control and other purposes. Their functional features are accurate temperature control, choice of temperature, indications (for completion of boiling, water shortage, boiling without water, etc.) and a timer. These additional functions, or excessive use of microprocessors seems to be the trend among Japanese products today. Although this trend might be a direct result of intense competition among manufacturers, this could be an attempt to make products more user-friendly.

Touching on the appearance of the mi-com pots, they employ modern or even futuristic images (Fig.5). Simple forms, white or whitish colors (the flower pattern has disappeared), a touch of high-tech (switches and indicators) and a bit of cuteness (round shape). These images seem to be employed in order to strengthen the appeal of the technological features. These images and styling idioms are also common in rice cookers and other small electric cooking appliances.

CONCLUSION

As we have seen here, electric pots and thermos bottles in postwar Japan have developed in a different way from the West. Although they are meant for a similar use, they underwent different economic and social situations. The case study shows the reality that same ideas or products underwent different courses of evolution when adopted in different societies.

Objects in the case study evolved to fulfill, mainly, the needs of casual tea drinking custom in Japanese homes and offices, while the evolution of these objects has changed the habitual way of tea drinking in everyday life. Also, the evolution was largely led by interrelations of two industries: electrical appliance industry and thermos bottle industry. Thus, the design changes or evolutions of electric pots and thermos bottles in postwar Japan also are frank expressions of modern Japanese culture and its society. To understand the nature of non-conscious or anonymous design of everyday objects today,[1] design history from the evolutionary point of view will serve as a useful means of study.

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[6]. Eco, Umberto. Phenomena of this sort must also be included in any panorama of Italian design. Otherwise it is hard to grasp an idea of Italy itself or of design, Italian Re-evolution, 1982.

1) Once Umberto Eco wrote on Italian design saying ' The only way to understand the nature of non-conscious design in a given society is to understand the needs that society express', and interestingly, he chose the espresso coffee machine in coffee bars as an example. [6]

(first appeared in *Proceedings of the First China-Japan Jont International Symposium on Industrial Design*, 1996)